

# **Intensive Culture of Walleye Fry**

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Over the past 12 years, significant advances have been made in the development of techniques used to rear larval walleye intensively. Research conducted at Rathbun Fish Culture Research Facility has contributed heavily in this area. Despite our successes and progress, a major obstacle still exists in that the only diet identified as nutritionally adequate for larval walleye, BioKyowa FFK B-series, is no longer available. The import of BioKyowa diets was prohibited in 2002 because of an outbreak of bovine spongiform encephalopathy in Japan, where BioKyowa is manufactured.

A thorough search indicated that the best replacement for BioKyowa may be INVE Aquaculture's Lansy CW larval diet series. The Ontario Ministry of Natural Resources had experimented with an INVE diet during feed training of walleye fingerlings. In addition, INVE Aquaculture nutritionists cited the Lansy CW series as a potential diet for walleye fry. Nutritionists with INVE also suggested that feeding artemia and weaning to the Lansy CW series may provide desirable results.

In 2003, the growth and survival of intensively-reared walleye fry were evaluated under two feeding regimes in a 26-day trial. The first feeding regime exclusively used dry diet (DD), while the second feeding regime involved feeding dry diet plus artemia (AD). The dry diet used in both treatments was the Lansy CW larval diet series. In the AD regime, artemia and dry diet were offered from first feeding up to day 15 posthatch, at which point only dry diet was offered. Survival rates for both treatments were poor with averages of 15.5 and 25.3% for the AD and DD treatments, respectively. Final lengths of walleye were not affected by feeding regime, with an overall average of 25.2 mm (1 in). Fry fed only dry diet had a significantly higher deformity rate than those fed dry diet plus artemia. These deformities, which were virtually nonexistent in the AD treatment, included cataracts, shortened opercula, and broken isthmus.

This research shows that a nutritionally adequate diet that produces low deformity rates and high feed acceptance still needs to be identified for larval walleye.